

AIR QUALITY SYSTEM ADVANCED USER TRAINING



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AQS Advanced User Training

- § Site & Monitor Registration
- § Batch Load Processing
- § Maintenance
 - Raw Data
 - Precision/Accuracy
- § Reports
- § Exceptional Events processing
- § AQS Help

Site Registration

§ Multiple Tabs

- Basic Site Data
 - Required tab – all required
 - Locational Data Policy – EPA Agency Policy
 - Other site descriptive data
 - Optional
 - Site termination, ZIP Code, new fields
- Agency Roles
 - Agency supporting site
 - Multiple entries possible
 - Date range – not available in batch

Maintain Site - Required

Maintain - Site Data (Read Only)

Basic Site Data | Agency Roles | Tangent Roads | Open Paths | Comments

State Code 51 County Code 059 Site Id 0005 Status Ind P

Required Optional

Site Latitude	38.893889	Site Longitude	-77.465278	Utm Zone Num	18
Utm Easting	286190	Utm Northing	4307700		
LDP Coll Method	027	LDP Horiz Datum	UNKNOWN		
LDP Src Scale	0	LDP Accr Value	0		
LDP Vert Meas	77	LDP Vert Accr Value	0		
LDP Vert Method	000	LDP Vert Datum	UNKNOWN		
Street Address	CUB RUN LEE RD CHANT.(CUBRUN TREAT PLANT				
City Code	00000	UA Code	0000	AQCR Code	047
Land Use Type	AGRICULTURAL			Loc Setting	RURAL
Site Estab Date	19710101				

Create Monitor

Maintain Site - Optional

Save F10

Maintain Site Data (Read Only)

Basic Site Data | Agency Roles | Tangent Roads | Open Paths | Comments

State Code 51 County Code 059 Site Id 0005 Status Ind P

Required Optional

Time Zone EASTERN Terminated Date

Zip Code Congr Distr Num Block Group Block Num

Census Tract Class 1 Area Local Region Hq Eval Date Reg Eval Date

Local Site Name City Dist Local Site Id

Compass Sector Met Site Dist Direct Met Site

Met Site Type

Met Site Id: State Code County Code Site Id

Create Monitor

Maintain Site- Agency Roles

[illegible]

Site Registration

§ Multiple Tabs (continued)

- Tangent Roads
 - Describe traffic around site
 - Multiple roads
- Open Paths
 - Unique sampling process- seldom used
- Comments
 - Free form comments
 - Not available in batch

[illegible]

Monitor Registration

§ 13 Tabs

- Monitor Basic – all optional fields – some important for monitor descriptive information
- Sample Periods – one required - begin/end sample dates, multiple sampling periods but only one active
- Monitor Type Assign. – one required monitor classification defined by monitor requirements, multiple monitor types at same time (SLAMS, NAMS).
- Agency Roles – reporting is required for criteria pollutants, collecting, analyzing

Maintain Monitor - Monitor Basic

Maintain - Monitors (Read Only)

Monitor Basic | Sample Periods | Type Assign. | Agency Roles | Objectives | Pollutant Area

State Code 51 County Code 059 Site Id 0030

Parameter Code 42101 POC 1 Status Ind P

Project Class 02 Meas Scale URBAN SCALE Probe Location SIDE OF BUILDING Probe Vert Dist 2 Samp Res Time

Dominant Source AREA Open Path Num Probe Height 5 Surrogate Ind Last Samp Date 20011031 Probe Hor Dist 1 Unrest Air Flow Y Last Post Date 20011231

Check Completeness Duplicate Monitor

The screenshot shows a software window titled "Maintain - Monitors (Read Only)". It has several tabs: "Sample Periods", "Type Assign.", "Agency Roles", "Objectives", "Pollutant Area", and "Req Frequencies". The "Sample Periods" tab is selected. Inside this tab, there is a table with two columns: "Begin Date" and "End Date". The first row of the table has the value "19990301" in the "Begin Date" column. To the right of the table, there are five input fields labeled "Monitor" containing the values "51", "059", "0030", "42101", and "1".

Begin Date	End Date
19990301	

Monitor: 51 059 0030 42101 1

Maintain Monitor Type

§ Agency assigns type at registration

§ NAMS, PAMS special process

- Request designation through Regional Office
- EPA Headquarters receives/evaluates/changes designation
- Monitoring regulations
- Data elements complete for review/approval
 - Tangent Road info, Measurement Scale, Probe Location, Date Site Criteria Met, Unrestricted Air Flow, MSA or CMSA Represented, Action Type, Type Met Site

Monitor Registration

§ 13 Tabs (continued)

- Objectives - one required
 - Defines reason for monitoring/geographical area represented
- Pollutant Area - optional
 - Non-attainment area, PM – monitoring areas
 - PM2.5 regulatory specific fields
- Req Frequencies – parameter dependent
 - Required for PM10 & PM2.5 – used for summary calculations
 - Required for PAMS to register sampling schedule for approval
 - Seasonal for PM samplers – input frequency by month

Maintain Monitor – Pollutant Area

[illegible]

Monitor Registration

§ 13 Tabs (continued)

- Tangent Road optional
 - Stores distance of monitor from surrounding roads
- Probe Obs. - optional
 - Dependent on “Unrest Air Flow” on monitor basic
- Reg Compliances – optional
 - Quality assurance – Criteria, PAMS, Sitting criteria – Criteria, PAMS, Reference method - Criteria
 - Date for compliance, status Y, N, W (wavier)
 - First Exceedence Correction, Short Term Sampling Satisfied

Monitor Registration

§ 13 Tabs (continued)

- Collocation – optional
 - PM monitors – could be used to determine precision completeness
- Protocols
 - Defines sampling methodology – sampling method, duration, reporting units, sampling frequency, composite type, alternate MDL
 - Automatically created by raw data load, can't delete

Maintain Monitor - Protocols

[illegible]

Monitor Registration

§ 13 Tabs (continued)

- Comments – optional
 - Not available with batch input
 - Multiple lines with sequence numbers
 - Adding new comments does not override previous comments

Site & Monitor Registration

- § New site requires registration of at least one monitor
- § Dates between site and monitor dependent
- § “Status Indicator” on Basic Site Data & Monitor Basic – Check Completeness
- § Duplicate Monitor
 - Change necessary fields before saving

Site & Monitor Registration

§ Terminate Monitor completely –

- Update Sample Period End Date, Monitor Type End Date, Agency Roles End Dates, Collection Frequency End Date

§ Terminate Site – All Monitors Completely Terminated

Special Monitor Processing

§ Req Frequencies

- Required for PM10 & PM2.5 to enter raw data
- Only one active frequency (no End Date)
- Entering end date and/or adding a new frequency causes summaries to be recomputed

§ Agency Roles

- Reporting agency changes cause P & A summaries to be recomputed

Batch Load Processing

§ Raw Data – Hourly, Daily & Composite

- All batch processes
- Routine data use large file sizes (50,000 to 100,000 values) for efficiency
- Reduces record keeping
- SCAN & Critical Review Reports

§ Site/Monitor/Precision/Accuracy

- Load File or Submit Correct Data

Batch Load – SCAN Report



Air Quality Subsystem SCAN Report

Monitor Id	Unit	Dur	Year Q	Hist Max - Date	1ST Max	Date-Time	Loc VF	2nd Max	Date-Time	Loc VF	3rd Max	Date-Time
34-001-0005-42401-1	007	1	2002-4	.031 12/30/2000 :21	.024	12/31:13		.022	12/28:10		.021	12/28:09
34-001-0005-44201-1	007	1	2002-4	.127 06/24/2002 :15	.079	10/03:14		.074	10/03:13		.07	10/02:13
34-003-0004-42101-1	007	1	2002-4	5.7 12/04/2000 :18	3.5	11/21:10		3.3	11/21:07		3.2	11/21:08
34-003-0004-88101-3	105	1	2002-4	97 07/19/1999 :13	66	11/25:10		62	11/25:09		60	12/20:04
34-003-0005-42601-1	007	1	2002-4	.423 12/04/2001 :08 *	.435	12/18:23		.432	12/18:21		.432	12/18:22
34-003-0005-42602-1	007	1	2002-4	.086 09/09/2002 :18	.071	12/19:08		.068	12/18:23		.067	12/19:01
34-003-0005-44201-1	007	1	2002-4	.143 08/12/2002 :15	.073	10/02:14		.069	10/02:13		.069	10/02:15
34-003-5001-42101-1	007	1	2002-4	6.9 01/12/1999 :19	4.6	12/18:19		4.2	12/18:17		4	12/18:18
34-003-5001-42401-2	007	1	2002-4	.053 02/16/1999 :13	.045	12/09:14		.037	12/10:12		.035	12/10:13
34-005-1001-42101-1	007	1	2002-4	7.9 04/13/2000 :06	4.9	12/30:08		4.5	12/05:07		4.4	11/25:07
34-005-1001-42401-2	007	1	2002-4	.059 07/28/2000 :11	.041	12/11:06		.04	12/11:04		.04	12/11:07
34-007-0003-42101-1	007	1	2002-4	8.2 12/04/2000 :18	4.5	12/31:22		3.8	12/21:19		3.7	12/31:20
34-007-0003-42401-2	007	1	2002-4	.076 03/07/2002 :09	.049	12/16:03		.041	12/11:02		.041	12/16:04
34-007-0003-42601-2	007	1	2002-4	.498 10/20/2000 :07	.426	12/13:08		.42	12/31:22		.394	12/13:07
34-007-0003-42602-2	007	1	2002-4	.097 01/30/2000 :08	.096	12/10:12		.086	12/10:11		.077	12/10:10
34-007-0003-42603-2	007	1	2002-4	.554 10/20/2000 :07	.467	12/31:22		.462	12/13:08		.431	12/13:07
34-007-0003-44201-1	007	1	2002-4	.141 08/09/2001 :14	.087	10/03:13		.085	10/02:13		.081	10/02:14
34-007-0003-61101-1	013	1	2002-4	13.1 03/10/2002 :13	10.6	12/20:09		10.5	12/20:10		10.1	12/25:13
34-007-0003-61102-1	014	1	2002-4	360 08/02/1999 :00	359	10/21:11		359	10/21:19		359	10/31:02
34-007-0003-62101-1	015	1	2002-4	99 07/05/1999 :13	85	10/02:14		85	10/02:15		85	10/03:14
34-007-0003-62201-1	019	1	2002-4	99 06/06/1999 :04	99	10/01:01		99	10/01:02		99	10/01:03
34-007-0003-63301-1	025	1	2002-4	1.37 07/03/2001 :12	.99	10/01:11		.99	10/06:11		.97	10/14:11

Batch Load – Critical Review

§ Raw data criteria pollutant

- 3YR historic max exceeded
- 1st max 125% > 2nd max data set
- Value > NAASQ
- Year SLAMS certified

§ Raw data non-criteria pollutant

- 3 YR historic max exceed by 125%
- 1st max 175% > 2nd max data set
- Year SLAMS certified

Batch Load – Critical Review

Critical Review Report Selection (New Jersey)

All Reports

State Code

All Reports Except Site Changes

Region Code

Screening Group

Parameter Type

Parameter Code

Monitor Changes / Site Changes / Raw Data

Begin Date End Date

P & A Reports

P & A Year

P & A Quarter

Raw Data

P_A Monitors

Monitor Changes

P_A Reporting Org

Site Changes

P_A Single Checks

Batch Process Critical Review Report



Air Quality System Critical Review Report - Raw Data

Selected Criteria

State: NJ EPA Region: AL

Screening Group: ALL

Date Range: 01-JAN-2003 - 31-DEC-2003

Parameter Type: ALL

Parameter Name: ALL

Mar 24, 2003

Screening Group Name: NEW JERSEY

Monitor Id	Mon Type	Update Date	Action Ind	Critical Review Type	Unit	Sample Value	Sample Date/Time	Comp Value
34-001-1006-81102-1	S	20030303	I	Value >> 3-Yr Historical Max	ug/m3 SC	66	20020719 00:00	45
			I	Value >> 3-Yr Historical Max	ug/m3 SC	147	20020707 00:00	45
34-001-1006-85101-1	S	20030303	I	Value >> 3-Yr Historical Max	ug/m3 LC	147	20020707 00:00	46
34-001-1006-88101-1	S	20030212	I	Value >> 3-Yr Historical Max	ug/m3 LC	106.7	20020707 00:00	48.1
			I	Value > NAAQS	ug/m3 LC	106.7	20020707 00:00	65.0
34-003-0003-88101-1	S	20030212	I	Value >> 3-Yr Historical Max	ug/m3 LC	77.8	20020707 00:00	54.4
			I	Value > NAAQS	ug/m3 LC	77.8	20020707 00:00	65.0
34-003-0005-42602-1	S	20030107	I	Value >> 3-Yr Historical Max	ppm	0.084	20020909 19:00	0.082
			I	Value >> 3-Yr Historical Max	ppm	0.084	20020814 10:00	0.082
			I	Value >> 3-Yr Historical Max	ppm	0.086	20020909 18:00	0.082
34-003-0005-44201-1	S	20030107	I	Value >> 3-Yr Historical Max	ppm	0.128	20020813 12:00	0.127
			I	Value >> 3-Yr Historical Max	ppm	0.128	20020709 14:00	0.127
			I	Value >> 3-Yr Historical Max	ppm	0.130	20020812 13:00	0.127
			I	Value >> 3-Yr Historical Max	ppm	0.130	20020802 14:00	0.127
			I	Value >> 3-Yr Historical Max	ppm	0.131	20020709 13:00	0.127
			I	Value >> 3-Yr Historical Max	ppm	0.132	20020812 14:00	0.127
			I	Value >> 3-Yr Historical Max	ppm	0.135	20020802 13:00	0.127
			I	Value >> 3-Yr Historical Max	ppm	0.143	20020812 15:00	0.127

Batch Processing Review for Site/Monitor/Precision/Accuracy

§ Review Data With Standard Reports

- Site - AMP380 Site Description Report
- Monitor – AMP390 Monitor Description
- Accuracy - AMP246 Accuracy Report – relative % difference between audit values
- Precision AMP247 Precision Report – relative % difference between precision values

Maintain Processing

§ Raw Data

- Browse function
 - Displays latest data first
 - Correct/review preproduction data using SCAN or Critical Review Reports
- Add/Delete/Update
 - Query monitor specific data
 - Query on date

Raw Data Browse

Maintain - Raw Data (New Jersey)

Raw Data Qualifiers Comments

State Code County Code Site ID Parameter Code POC

Raw Data

Mp ID	Samp Begin Date	Stat Ind	Qual Data	Rptd Samp Value	Reported Scale	Std Samp Value	Std Unit	EPA Ind	Freeze Ind	Action Ind	Excl Ind	Exclusion Date	Uncertainty Value
2	20021121 12:00	S	N	.087	3	.087	007						
2	20021121 11:00	S	N	.095	3	.095	007						
2	20021121 10:00	S	N	.094	3	.094	007						
2	20021121 09:00	S	N	.086	3	.086	007						
2	20021121 08:00	S	N	.104	3	.104	007						
2	20021121 07:00	S	N	.111	3	.111	007						
2	20021121 06:00	S	N	.086	3	.086	007						
2	20021121 05:00	S	N	.068	3	.068	007						
2	20021121 04:00	S	N	.066	3	.066	007						
2	20021121 03:00	S	N	.051	3	.051	007						

Monitor Protocols

Mp ID Parameter Code Method Code Unit Duration Code Coll Freq Code Alt Mdl

Raw Data Maintain

Maintain - Raw Data (New Jersey)

Raw Data Qualifiers Comments

State Code County Code Site ID Parameter Code POC

Raw Data

Mp ID	Samp Begin Date	Stat Ind	Qual Data	Rptd Samp Value	Reported Scale	Std Samp Value	Std Unit	EPA Ind	Freeze Ind	Action Ind	Excl Ind	Exclusion Date	Uncertainty Value
2	20020901 23:00	R	Y	.008	3	.008	007						
2	20020901 22:00	R	Y	.009	3	.009	007						
2	20020901 21:00	R	Y										
2	20020831 23:00	F	N	.006	3	.006	007						
2	20020831 22:00	F	N	.009	3	.009	007						
2	20020831 21:00	F	N	.009	3	.009	007						
2	20020831 20:00	F	N	.012	3	.012	007						
2	20020831 19:00	F	N	.015	3	.015	007						
2	20020831 18:00	F	N	.011	3	.011	007						
2	20020831 17:00	F	N	.006	3	.006	007						

Monitor Protocols

Mp ID Parameter Code Method Code Unit Duration Code Coll Freq Code Alt Mdl

Raw Data Qualifiers

Maintain - Raw Data (New Jersey)

Raw Data

Qualifiers

Comments

Qualifiers

Qualifier Code	Qualifier Desc	Qualifier Type	Status Ind
R	CLEAN UP AFTER A MAJOR DISASTER	EX	R

Monitor

34

017

0006

42602

1

Begin Date

20020901 23:00

Status

R

Raw Data Comments

Maintain - Raw Data (New Jersey)

Raw DataQualifiersComments

Comments

Sequence	Comment
1	TEST FOR A COMMENT FOR TRAINING

Monitor

34

017

0006

42602

1

Begin Date

Status

20020901 23:00

R

Qualifier Code

R

Maintain Processing

§ Precision audits

- New form in the client but not operational

Maintain Processing Precision

Action Help Site Monitor Audit Event Sample Values PREcision ACCuracy SUMmary CONCurrence Ind MaIn Menu Window

Maintain Precision Data (New Jersey)

Maintain Precision Data

State 34	County 013	Site 0016	Parameter 88101	Poc 1	Prec Date	Prec Id
Prec Sample Id			Precision Data Type			

Method	Unit	Duration	Value

Method	Unit	Duration	Value

Maintain Processing

§ Accuracy forms

- Monitor
 - Query process
 - Monitor protocols
- Accuracy Data
 - Accuracy data
 - Descriptive data
 - Accuracy Audits
 - Level concentrations

Maintain Processing Accuracy

State Code County Code Site Id Parameter Code POC

Monitor Protocols

Mp ID	Parameter Code	Method Code	Unit	Duration Code
1	44201	011	007	1
2	44201	047	007	1
3	44201	007	007	1

Maintain Processing Accuracy

Maintain - Accuracy Data (Read Only)

Monitor Accuracy Data

Accuracy Data

Monitor 34 007 0003 44201 1

Mp ID 3 Year 1987 Qtr 3

Accuracy Date 19870930 Audit Type AUDIT AND CERT BY RO

Local Pri Std PHOTOMETER (VERIFIED) Audit Class ANALYTICAL

Accuracy Type PE Audit Sample Id Expiration Date

Audit Scheduled Zero Span Value

Accuracy Audits

Acc Audit Id	Level Num	Actual Value	Indicated Value
1	1	.059	.057
1	2		
1	3		

Reports

- § Patterned after mainframe reports
- § Reports have defined uses
 - AMP450 Quick Look – NAAQS oriented
- § Limitations based on initial development
 - Prints pages without data
- § Conversion to text output
- § Optimize report or database to improve performance

Reports Selection Process

§ Select Report - list sorted by name

§ Data selection

- Geography, pollutant type, parameter, method, duration, date range, monitor type, land use type, reporting organization

§ Sort order

§ Report Options

§ Raw data options

§ Generate report

Select Report

Standard Report Criteria Selection (Read Only) AMP350

Criteria Set	Selections	Sort Order	Report Options	Raw Data Options	Generate Report
<u>Criteria Set</u> <u>Last Used</u>		<u>Desc</u>			
	20030326 12:40				
<u>Report Code</u>	AMP350		Report Name	RAW DATA REPORT	
<div>Clear All</div> <div>Delete Criteria Set</div> <div>Duplicate Criteria Set</div>					

Data Selection

[illegible]

Sort Order

Standard Report Criteria Selection (Read Only) AMP350

Criteria Set Selections **Sort Order** Report Options Raw Data Options Generate Report

Column Name	Order	Asc or Desc
PARAMETER_CODE	1	ASC
STATE_CODE	2	ASC
COUNTY_CODE	3	ASC
SITE_ID	4	ASC
POC	5	ASC
DURATION_CODE	6	ASC

Report Options

Standard Report Criteria Selection (Read Only) AMP350

Criteria Set Selections Sort Order **Report Options** Raw Data Options Generate Report

Report Options

Description	Select Option
EXCLUDE EXCEPTIONAL EVENTS	<input type="checkbox"/>
INCLUDE EXCEPTIONAL EVENTS	<input checked="" type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>

Raw Data Options

Standard Report Criteria Selection (Read Only) AMP350

Criteria Set Selections Sort Order Report Options **Raw Data Options** Generate Report

Raw Data Options

Reported or Standard Units: **STANDARD** Daily Mean or Max: **MEAN** Show Null Values: **YES**

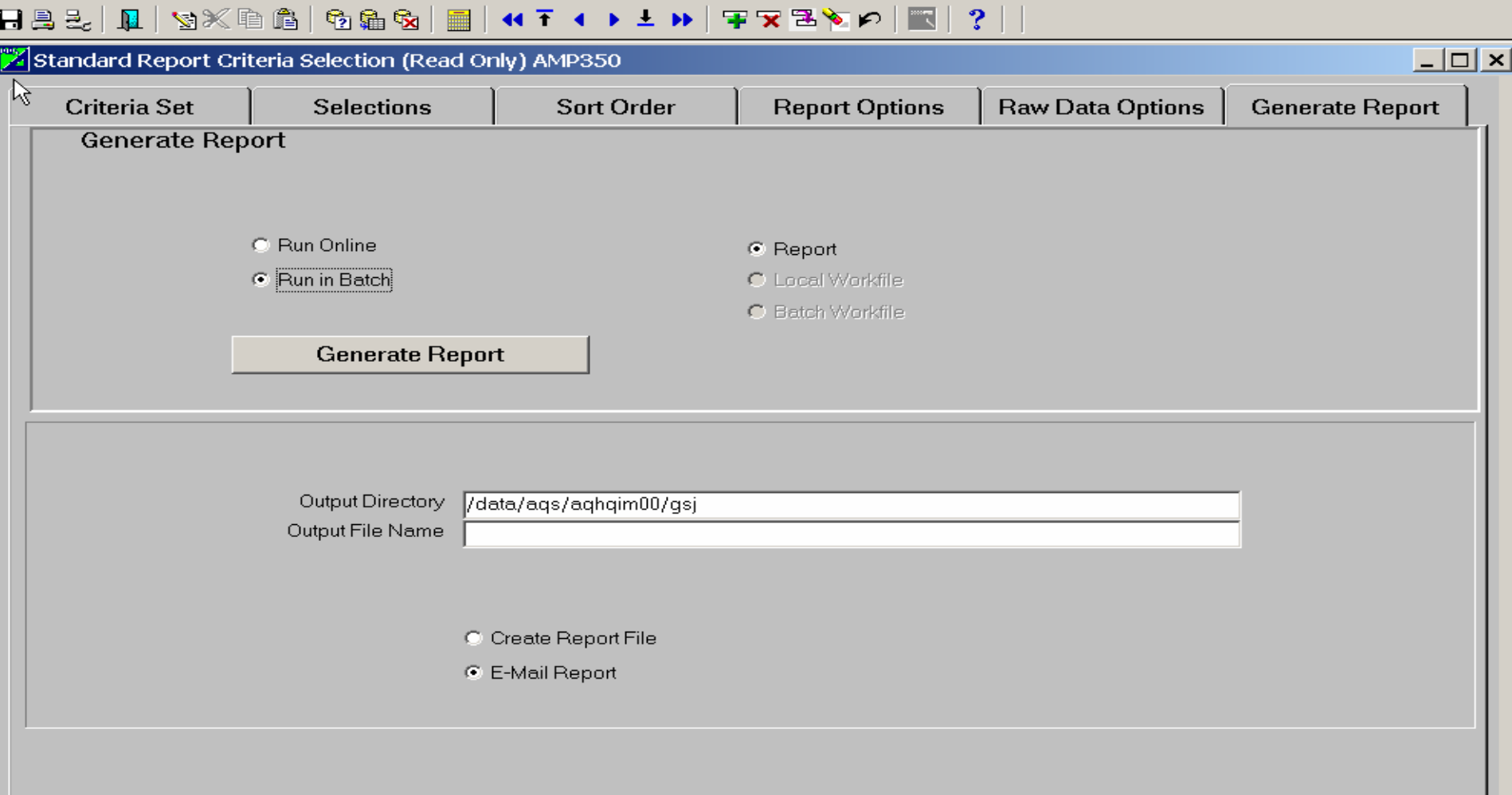
Federal Standards

Select?	Parameter	Std Unit	Duration	Primary Std	Secondary Std
<input checked="" type="checkbox"/>	12128	001	Q	1.55	1.55
<input type="checkbox"/>	42101	007	Z	9.5	9.5
<input type="checkbox"/>	42101	007	1	35.5	35.5
<input type="checkbox"/>	42401	007	Y		.55

Report Standards

Parameter	Duration	Primary Std	Secondary Std

Generate Report



Standard Report Criteria Selection (Read Only) AMP350

Criteria Set Selections Sort Order Report Options Raw Data Options Generate Report

Generate Report

☐ Run Online ☒ Report

☒ Run in Batch ☐ Local Workfile

☐ Batch Workfile

Generate Report

Output Directory: /data/aqs/aqhqm00/gsj

Output File Name:

☐ Create Report File ☒ E-Mail Report

Exceptional Event Processing

- § Exceptional events defined by agency guidance.
- § Qualifier flags for exceptional events
- § No edit for valid flags by parameter
- § Event documentation must be submitted to Regional Office for review
- § Regional concurrence flag set

Exceptional Event Processing

§ System calculates records with and without values with flags

- NAAQS averages
- Daily summaries
- Quarterly summaries
- Annual summaries

§ System change to only omit flagged values with Regional concurrence

AQS Help

§ Field level help

§ Topical/subject level help

Field Level Help

Maintain - Site Data (Read Only)

Basic Site Data | Agency Roles | Tangent Roads | Other

City Code
A FIPS code to uniquely identify the city within whose legal boundaries the site is located.

State Code County Code Site Id Status Ind

Required | Optional

Site Latitude	<input type="text"/>	Site Longitude	<input type="text"/>	Utm Zone Num	<input type="text"/>
Utm Easting	<input type="text"/>	Utm Northing	<input type="text"/>		
<u>LDP Coll Method</u>	<input type="text"/>	<u>LDP Horiz Datum</u>	<input type="text"/>		
<u>LDP Src Scale</u>	<input type="text"/>	<u>LDP Accr Value</u>	<input type="text"/>		
<u>LDP Vert Meas</u>	<input type="text"/>	<u>LDP Vert Accr Value</u>	<input type="text"/>		
<u>LDP Vert Method</u>	<input type="text"/>	<u>LDP Vert Datum</u>	<input type="text"/>		
<u>Street Address</u>	<input type="text"/>				
<u>City Code</u>	<input type="text"/>	<u>UA Code</u>	<input type="text"/>	<u>AQCR Code</u>	<input type="text"/>
<u>Land Use Type</u>	<input type="text"/>			<u>Loc Setting</u>	<input type="text"/>
<u>Site Estab Date</u>	<input type="text"/>				

Create Monitor

Help Topics

